Movement and survival of acoustically tagged coho salmon smolts in south Puget Sound

Scott Steltzner, Squaxin Island Tribe*
Kyle Brakensiek, Northwest Indian Fisheries Commission

Keywords: survival, movement, tracking, acoustic, salmon

Coho salmon (Oncorhynchus kisutch) populations in south Puget Sound (SPS) continue to experience exceptionally low rates of survival. Trends suggest a trophic shift where the region may now be acting as a bottleneck on early marine survival of coho salmon. With money appropriated by the U.S. Congress for tribal hatchery reform, the Squaxin Island Tribe is near completion of a second year of acoustic tagging and tracking research investigating coho salmon smolts in SPS. Results from the first-year pilot study revealed high detection probabilities, high initial survival and extensive movement of acoustically tagged fish. Movement histories were correlated with tide events and suggested a fish size effect on detection probabilities. Collectively, first-year data confirmed the ability of this technology to provide new insight and understanding of salmon life-history behavior in marine waters. The 2004 follow-up study has expanded on the network of acoustic data loggers in SPS to further assess areas of fish use and ultimately survival of coho salmon smolts. We will present results from both the pilot study and the first year's investigation along with discussion on the collaborative research opportunities this technology affords.